Appendix A
Transcript of Public Meeting
on Mixed-Oxide Fuel

A.1 TRANSCRIPT OF PUBLIC MEETING ON MIXED-OXIDE FUEL HELD IN COLUMBIA, SOUTH CAROLINA ON JUNE 24, 1999

PUBLIC MEETING ON
MIXED-OXIDE FUEL

CONDENSED

DATE: Thursday, June 24th, 1999

TIME: 6:38 p.m.

LOCATION: Gressette Building
Columbia, SC

REPORTED BY: LISA D. JETER
Court Reporter

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MEMBERS ON PANEL:

SENATOR PHIL P. LEVENTIS
SENATOR JOHN COURSON
MR. ETHAN BROWN
MS. ABBY WOODWARD
MR. DAVID NULTON
MR. BERT STEVENSON
MR. CHARLIE ANDERSON
DR. ARJUN MAKHIJANI
MS. MARY OLSON
MR. ROBERT C. SELBY
MR. DENIS HUGELMAN
MR. R.H. IHDE
MR. STEVE NESBIT

SENATOR LEVENTIS: Good evening. I'm Phil Leventis, and I have convened this meeting to meet several purposes.

I want to expand the record and create a record, an additional record, on the MOX proposal that the Department of Energy has initiated for the Savannah River Site.

I want to offer the Department of Energy and contractors an opportunity to make statements they may want to make. And they have also agreed to answer questions, which is the primary purpose for all of our being here.

Then as time permits, I would like to permit you to ask questions, as well. But from the number of people who have indicated they are interested in asking questions, I hope we can accommodate as many as possible. I don't know how many that will be.

We have a variety of folks with us this evening, and I appreciate everyone's being here.

Let me, before I recognize anyone, tell you that we're going to conduct a relatively informal meeting. However, if you would like to speak, be recognized, please come

to the podium, and state your name clearly for the recorder.

Our recorder this evening is Ms. Lisa Jeter, and she will be recording the proceedings, and we also have a tape recording of the proceedings.

The scenario I would like to follow is, I would like to recognize first those folks who are here from the Department of Energy, from Cogema, from Westinghouse, and also from Duke, and several others who are here whom I would like to acknowledge. Then I'm going to turn the meeting over to Mr. Nulton for some comments from DOE.

Because of the technical nature of the issues that I would like to deal with, I would like for the folks who are speaking to be able to complete their presentations before we start asking any questions.

I have a series of questions that I would like to ask before we open it up to the public, so if you have questions, please write them down.

I've already recognized Ms. Jeter, who is our recorder. I'd like to recognize

several members of the legislature that are here. I've mentioned myself; Senator John Courson, from Columbia; Representative Bill Clyburn. He's sitting in the back with some folks from his district, which is near the facility.

I'd also like to recognize Ms. Abigail Woodward, who has joined us this evening. She is representing Representative Nan Orrock, who is a member from Georgia, representing the downtown Atlanta area. Due to a traffic jam, I guess she wasn't able to be here.

MS. WOODWARD: Actually, she's in Washington right now.

SENATOR LEVENTIS: That's just a little joke because of the quality of life in South Carolina versus the quality of life in Georgia. We appreciate your being here and your interest.

I'd like to recognize those that I understand are here from DOE, and Dave, if there are others, please point them out.

First, Mr. Bert Stevenson; Dave Nulton, who I talked about; Mr. Bob Sel

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also from Duke is Mr. Steve Nesbit; and from Duke, Cogema, Stone and Webster, Mr. Bob Ihde. And also joining us from Europe -- and I hope I pronounce your name correctly -- Mr. Dennis Hugelman with Melox.

We also have from the Institute for Energy and Environmental Research, Dr. Arjun Makhijani, who has joined us, in addition to some other folks from that organization.

Is there anyone else here whom I should have recognized that I didn't? Ethan is with us also. We appreciate your being here.

Anyone else? Oh, I'm sorry. Mary Olson with Nuclear Information and Resource Council from Washington.

Anyone else? Mr. Hank Stallworth is with the Governor's office now dealing with environmental issues and is just here to listen.

Okay. All of those preliminaries have been taken care of. Let me turn the meeting over to Dave Nulton to make what comments you'd like and to recognize those people from DOE.

MR. NULTON: Thank you, Senator.

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I'll be brief, so that we can get into the main part of the meeting and try to address the issues that you have raised.

We came prepared tonight with representatives of the Duke, Cogema, Stone and Webster team, that has been selected by the government for the mixed-oxide fuel fabrication and irradiation services program.

SENATOR COURSON: Excuse me. It may be helpful on the microphone if --

SENATOR LEVENTIS: He's got his own.

SENATOR COURSON: I'm sorry about that.

SENATOR LEVENTIS: I'm sorry.

MR. NULTON: I'll get closer to the microphone.

We've tried to bring with us representatives of the MOX fuel team that can respond to questions that were raised by Senator Leventis in a June 8th letter that he sent to the Department of Energy.

Very briefly, the Department in January of 1997 chose a hybrid approach for the disposition of surplus weapons plutonium that would come out of weapons here in the United States.

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That hybrid approach has two technical approaches: One is to immobilize a portion of the surplus plutonium in a ceramic form, and then embed that ceramic form into high-level waste containers that are being produced at the Savannah River Site. And the second approach is to use some of the plutonium in mixed-oxide fuel to be burned in commercial reactors.

We conducted a procurement last year and awarded the contract in the spring of this year to the Duke, Cogema, Stone and Webster team, which we will refer to tonight as DCS.

They will design and construct and operate a facility to fabricate mixed-oxide fuel. And then on their team are utilities, Virginia Power and Duke Power, that will provide reactors that will burn that mixed-oxide fuel, and we'll say more about those reactors later.

We have ongoing a negotiation with Russia. This is the result of a number of discussions and agreements that were reached between Vice-President Gore and Prime Minister

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Kiriyenko, and also between Presidents Clinton and Yeltsin in a number of meetings that occurred over the past two to three years.

In September of 1998, there was a summit meeting at which Presidents Clinton and Yeltsin charged their officials in their countries to develop a bilateral agreement between Russia and the United States to dispose of surplus plutonium from weapons.

That negotiation is ongoing, and our goal is to have a bilateral agreement in place at the end of this year -- actually, at the end of this fiscal year.

So by the end of September, our goal is to have a bilateral agreement in place that will address a number of things: The amount of material to be dispositioned in each country, the means by which it will be dispositioned.

That agreement will also address a number of transparency arrangements, that is to show how each country will assure that the other country is indeed getting rid of their material in a way that they have identified in this agreement, so that is ongoing.

We are also in the process of

completing an Environmental Impact Statement and analysis that is the second of two that we've done on this subject.

The first was a programmatic Environmental Impact Statement that was completed in December of 1996. And this -- the more recent document that we are preparing now identifies or evaluates specific sites where these disposition activities will be conducted, the amount of material that would go to either immobilization or mixed-oxide fuel, and then, of course, the impacts of the various technologies to be used for that purpose.

At this point in time, the Department has identified Savannah River as the preferred site for the construction of three facilities: One for immobilization of a portion of the surplus weapons plutonium; one for converting the weapons pits into an oxide material that can be used to feed these other facilities that will be used for disposition; and the third would be a facility to fabricate mixed-oxide fuel, which would then go to the reactors that I mentioned earlier for disposition.

There were a number of questions raised about the contract that the Department has entered into with the Duke Cogema team with regard to cost and fuel offsets and things of that nature. We're prepared to respond to those questions tonight.

Also, there were a number of questions raised about Cogema and their record in Europe at the La Hague plant and the Melox plant. I believe we can answer most of those questions tonight. We also have representatives from Duke Power to answer questions on reactors.

I think, with those brief comments, we should move forward.

SENATOR LEVENTIS: Thank you very much. What I'd like to do is go through a series of questions that I have put together, and I have provided those for folks for DOE, from DCS.

I did not talk with anyone from Duke. But if you would like to, Mr. Nesbit, we've got some questions we'd like to ask, as well. I know you did not necessarily come prepared, but if you would like, we'd like to

ask you some questions.

So I'll go through a series of these questions and then also may have some additional information that we'd like to bring up.

I discussed the issues with the gentlemen from DOE and the other places before we started, and since the purpose of the meeting is to create a record, if they have anything they would like to bring up or add that they feel would help our understanding or help in creating a record, then I invited them to do that. So let me start with the series of questions.

First of all, how long would the immobilization of all 50 tons take if that were the effort?

MR. NULTON: We are developing the capability to immobilize or convert to MOX fuel all 50 tons either -- you know, using a combination of both or immobilizing all, in a period of 10 to 15 years, and that's also the time frame -- 10 years, I believe, is the time frame being addressed in the bilateral agreement with Russia.

SENATOR LEVENTIS: And that's from the point of startup?

MR. NULTON: The point of startup, that's correct.

SENATOR LEVENTIS: That really addresses the second question. You're saying that either immobilizing all of it or using the combination should take 10 to 15 years from the startup?

MR. NULTON: That's correct.

SENATOR LEVENTIS: How long do you think it will take, from your best information, for Russia to complete the use of their 50 tons of plutonium in their reactors?

MR. NULTON: The time frame being addressed in the agreement is 10 years.

SENATOR LEVENTIS: And that's from the time they start up?

MR. NULTON: Yes. Correct.

SENATOR LEVENTIS: Do you have any ideas at this time when they're projected to start up?

MR. NULTON: Well, the schedule that we're working on right now, as we get the facilities up and operating, is in the 2006

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time frame.
SENATOR LEVENTIS: And that is about the schedule that you all have projected. Are there any changes in that projection for our startup?
MR. NULTON: Not at this point. That is our schedule right now.
SENATOR LEVENTIS: Is it true that the Department is beginning to design these facilities that you've described even before testing is complete on these projects?
MR. NULTON: There is preliminary design work going on right now. In the case of mixed-oxide fuel, there is no development work to be done.
The MOX fuel process that is being proposed for use and that will be used is essentially the same as the one that's being used in France. It's a process that's been used for a number of years successfully. The fuel has been used successfully in French reactors, so there is no development work to be done there.
SENATOR LEVENTIS: Excuse me. Is that weapons-grade fuel that's reprocessed?

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MR. NULTON: It is not weapons-grade fuel, but we're prepared to talk about the differences in those two, if you'd like to do that.
SENATOR LEVENTIS: Well, go ahead and finish. I'm sorry I interrupted you.
MR. NULTON: Okay. In the case of immobilization -- well, let me go to pit conversion. The pit conversion process involves taking a weapons pit, separating it into two hemispherical pieces, and then converting that hemisphere into an oxide form, plutonium oxide.
We currently have a demonstration line, a full-scale demonstration line, operating at the Los Alamos National Laboratory, so that is proceeding.
There's really two purposes of that facility: One is to demonstrate the process, most of the pieces of which have been demonstrated in the past, but what we've done is integrated it into a single line, and that work is ongoing.
The second purpose of that is to process several of the different types of pits

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that were produced during the Cold War to show that we can handle these different kinds of pits, so that activity is ongoing.
In the case of immobilization, we're in the final stages of demonstrating the technical process that's going to be used for immobilization.
SENATOR LEVENTIS: Is it absolutely necessary to go through the conversion of the weapons pits to go to immobilization?
MR. NULTON: Yes. They have to be converted to a feed form that can be used for that immobilization process.
SENATOR LEVENTIS: I know that the plan is to use that conversion of the weapons pits for both immobilization and for preparation to fabricate the MOX.
Is that the only process that could be used for immobilization, for preparation for immobilization, or are there other processes available?
MR. NULTON: We have to convert it to a feed form. Now, we probably don't necessarily need to do it with a pit conversion facility. There are chemical processes that

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can be used, but they also would require new facilities. So we would propose to use the pit conversion facilities if we were allowed to do that.
SENATOR LEVENTIS: Are they similar in cost when you're talking about the other alternatives for immobilization, beginning the immobilization process?
MR. NULTON: We, in our analysis, concluded that the quickest and least expensive way to build is with the pit conversion facility, yes.
Considering the other activities that are planned for the facilities that are already in existence at Savannah River, the commitments made to shut those facilities down in a certain time frame, the fact that we would have to make modifications to those facilities, we felt that pit conversion facility was -- designing was the way to go, yes.
SENATOR LEVENTIS: Isn't it true that with several programs, including the ITP, that unfortunately has just failed, that the Department has authorized design, even construction, before testing was complete?

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MR. NULTON: Charlie, can you answer that?

MR. ANDERSON: Just a little bit on the intank precipitation, ITP, that you talked about. There actually was testing that was conducted for ITP. It was conducted in a lab and in a demonstration prototype scale form.

The difficulty with ITP has been taking that technology and putting it into a production mode inside a high-level waste tank. Of course, that was the cost savings feature for the intank precipitation process also.

One of the alternatives being considered for that process is a smaller version in a smaller tank, so that you can control the process. The process was approved in laboratory process.

So there was testing there. And in a lot of these projects, particularly first of a kind, it's in the conversion of that testing at a lab scale, and then a prototype scale, onto a full production scale.

In some cases, as in DWPF, some portions of that system were tested at full scale. Dave just mentioned the pit disassembly

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used to produce MOX consists of mixing some borders -- (inaudible) uranium border and plutonium border, under processes exactly the same.

It's different from the release of plutonium, civilian plutonium or military plutonium. Oxide -- you mix it with uranium -- (inaudible). It's exactly the same process. But we don't use military plutonium in France.

SENATOR LEVENTIS: Right. And we expect some differences, I suppose.

The question is: Have we already started designing this plant before we've demonstrated on a scale of about 5 tons per year that we can extract the pits?

I take it you're saying, David, that out in Los Alamos they are doing a production rate of about 5 tons a year. And my concern and my question is: Have we started designing full-scale plants yet, and where are we in the testing of the fabrication of MOX fuel using weapons-grade plutonium?

MR. NULTON: Let me be clear on the demonstration at Los Alamos. This is a full-scale line, but there will be multiple

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is being worked -- that process at a full scale. And there are some processes that can be better done at a full scale than others.

I don't know if you had any other examples, but --

SENATOR LEVENTIS: I guess what I'm getting at is, those particular programs, no one thought that they would fail to succeed, but unfortunately they did. I'm just wondering how the department is trying to take that into account in terms of the mixed-oxide fuels, which, to my knowledge, the mixed-oxide fuels using weapons-grade plutonium have not on any scale been done before.

MR. NULTON: The question is use the of weapons-grade plutonium to do that.

MR. HUGELMAN: In France we don't use the military plutonium for MOX fuel. We use only civilian plutonium coming from reprocessing of used civilian fuel coming from the nuclear power plant, VDF from France, the other customers of Cogema, means utilities coming from Japan, Germany, Switzerland, Belgium.

And in fact, the process which is

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lines required in the actual pit conversion facility. So it is not processing 5 tons a year at this point in time. It's just demonstrating with different types of pits that we can take pits apart and convert them into an oxide powder. So we have a larger through put facility that will ultimately be used at Savannah River for processing those pits.

Also, in the case of the MOX plant, the through put will be 3-1/2 tons a year as opposed to 5, because we're proposing to use immobilization for the balance of that 5-ton-per-year capacity.

I think what Mr. Hugelman was saying here is that, from the fabrication point of view, the process is the same using the weapons plutonium or the recycled plutonium for the fabrication of the MOX fuel. Chemically it's the same, as I understand.

SENATOR LEVENTIS: What about with the demonstration at Los Alamos and also with the fabrication, are the rates of waste generation consistent with what the '96 Environmental Impact Statement said and all th estimates that we have available to us?

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MR. NULTON: We have prepared and released a couple months ago a supplement to the draft EIS.

The way this process worked was, we prepared a draft Environmental Impact Statement and then in our procurement of a contractor for the MOX program, we asked for environmental data to be submitted as part of their proposals so that we could take actual data from actual facilities and processes that were being proposed for use.

We took that environmental data and updated our analysis. We issued -- an environmental critique was prepared, and we issued a synopsis of that critique for public review. Then we also took that information and prepared a supplement to draft EIS, updated it using the most recent data from the procurement.

In there we updated our waste streams, and for the most part, the environmental impacts and waste streams were not significantly different. There were some -- in the case of true waste and low-level waste, the numbers went up from -- in the case

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of true waste, from .5 liters to 500 liters. In the case of low-level waste, from .3 liters to 300 liters.

SENATOR LEVENTIS: For --

MR. NULTON: This is waste produced per year. That's transuranic waste produced per year, and low-level waste produced per year.

SENATOR LEVENTIS: Five hundred liters?

MR. NULTON: Liters, yes. This is a relatively small amount, low-level waste as well. I think Savannah River has a low-level waste processing capacity of 1.9 billion gallons per year. So 300 liters is 75 or 80 gallons per year. So it's a relatively small amount compared to what these sites normally produce.

Those numbers were different for two reasons mainly. First of all, we now had an actual process that we could use to identify what those waste stream volumes were.

Secondly, we added a polishing process on the front of the MOX plant, which added to the waste produced in the MOX plant.

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So those numbers were different.

Others numbers changed, as well. Some went down. Some went up slightly, but for the most part, the numbers were not significantly different.

SENATOR LEVENTIS: Now, is this taking into account -- or tell me now, have you all decided to go with more of a wet process than the originally proposed dry process for production?

MR. NULTON: No, one of the chemical constituents in weapons plutonium is a metal called gallium. It was introduced into plutonium at a volume percent of 1 percent. It helps with the fabricability of the weapons pits. It can be a problem for the cladding of the fuel and reactors.

So in the procurement, we gave the proposers an option to remove that gallium using a dry process, the pit disassembly, conversion facility, or using a wet process on the front end of the MOX facility.

This is not a full-scale chemical processing capability. It's a small chemical plant that will just remove that gallium

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material.

In the case of the Duke Cogema team, they chose the wet processing step on the front end, so that is what we're using now as our reference case.

SENATOR LEVENTIS: And that is what changed the amount of waste?

MR. NULTON: That does increase the amount of waste that we have out of the MOX facility, yes.

SENATOR LEVENTIS: Are those changes going to affect the startup date?

MR. NULTON: No, they're not. In fact, my guess is they actually make the schedule much more achievable because the removal of gallium using a dry process, using what we were calling the TIGR -- I can't remember what TIGR stands for now -- Thermal Induced Gallium Removal. TIGR is what we call it, Thermal Induced Gallium Removal.

This would have been a process used in the pit conversion facility. It was very developmental. Although we had done some preliminary work on it, we were not getting the gallium levels down as low as we would have

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liked. By using the wet chemistry approach, we get them down to extremely low levels which are acceptable to the utilities, so I think in terms of development in time, the dry process would have taken much longer to develop. The chemical process is well understood.

In terms of cost, the TIGR process would have cost on the order of $50 million to develop, and although we still need to get some more preliminary design done to get a good cost estimate, it will be on the order of, perhaps, $50 million, as well, so I think it's a wash with the cost.

SENATOR LEVENTIS: Pardon the pun.

MR. NULTON: Yes. Sorry.

SENATOR LEVENTIS: When do you expect testing to be complete for the pit conversions and the immobilizations?

MR. NULTON: Do you know? 2002 for the pit conversion.

SENATOR LEVENTIS: And the design is taking place now, though, of the production facility?

MR. NULTON: In the case of pit conversion, it has not gotten started, but

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probably started within a month.

MR. SELBY: That's right.

SENATOR LEVENTIS: Let me proceed.

Are there any penalties that DOE or the government have to pay to contractors if parts of this program are not ready when -- with the schedule that has been proposed or contracted for, I should say?

MR. SELBY: You're right. We need to explain that there is -- at least in the MOX fuel fabrication facility, part of the plutonium disposition -- a base contract that is laid out for preliminary design and final design of the MOX fuel fabrication facility and also at the reactor sites.

That program would go through about 2003 before we're ready to move to a new option, which is the option for construction, and we will not move into the option for construction until such time that the Secretary makes a decision that the processes that will support it -- the Russian program that will support the MOX disposition is in place -- so we do have what I would call the offramp, if there are major problems there at the end of

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the design effort in the MOX disposition contract. We do not have to proceed to option one.

SENATOR LEVENTIS: I don't want to take you all too far afield from technical matters, but is it fair to say that the impetus for this program is diplomatic and deals with our relationships with Russia more than it does with a technical decision that this was the avenue that we should take?

MR. NULTON: I think the impetus for this program is primarily the concern over the Russian plutonium materials, getting them initially into safe, environmentally sound storage, but then getting them into some disposition path, so they cannot be reused with weapons or be converted to another nation where they can be used as weapons.

SENATOR LEVENTIS: We've got a series of questions we'll ask you on that on the second page, but let me get back to the questions before us.

As part of this process, is the Department of Energy or the government going to pay the uranium industry for any declines in

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sales of fuel prices that they may experience as a result of the replacement of uranium fuel with the MOX fuel?

MR. SELBY: It's such an insignificant amount. Considering the total amount of nuclear reactors that are used in the uranium field, there should be no impact for the six reactors using 40-percent MOX fuel, because they are also using uranium fuel at the same time.

SENATOR LEVENTIS: So you don't believe that there will be an impact?

MR. SELBY: No, I don't.

SENATOR LEVENTIS: Let me ask a few questions. Mr. Hugelman, I'll ask these questions of DOE first and then give you an opportunity to talk at a later point about these things so if you have some points you'd like to make, we'll get to that.

From the perspective of DOE, do you believe that Cogema's record of compliance with the laws in its home country is relevant for its potential compliance to the United States law?

MR. NULTON: Yes, and we reviewed

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those as part of the process.
SENATOR LEVENTIS: Have you made those public? Do we have available to us the records that you looked at about Cogema's compliance?
MR. STEVENSON: Yes sir, you do, in the form of an environmental synopsis, which takes the environmental information that was provided to us by DCS, which we independently assessed and verified and presented to the decision maker, Mr. Howard Canter, who's the person who was the source selection official. And that synopsis said to him that we had reviewed the environmental -- or the potential environmental -- impact of this contract, and we recommended in that synopsis that he approve the contract.
SENATOR LEVENTIS: Now, in making those recommendations, did you review information about Cogema's record of compliance in the European facility?
MR. SELBY: During the proposal period we -- first of all, we were unable to release anything to the public because we were in a procurement process.

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The procurement looked at the NRC regulations -- the recognition. The procurement recognized the Cogema plant, the Melox plant, would be transferred to the United States, and would be required to follow all of our internal NEPA requirements, our EPA requirements, and the NRC requirements.
We also requested the environmental information as a result of discharges, of whatever the discharges were to the environment from the Melox plant. Those were evaluated as part of the RFP process and were used in preparing the environmental synopsis.
SENATOR LEVENTIS: Is that information anywhere available to the public now?
MR. SELBY: That information is going to be made available, as I understand it.
MR. STEVENSON: Excuse me. The environmental synopsis has been published. It is on our electronic or worldwide web site and also is available upon request by mail.
SENATOR LEVENTIS: Now, if it were requested by mail, is it the synopsis or is it the full information?

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MR. STEVENSON: The synopsis, as it turns out, because we only had -- let me explain one thing about the difference between computing and synopsis.
MR. NULTON: I'd like to say something. I think the quick answer here, the bottom line, is this information is available, and I think when we hear Cogema speak later in the meeting, they will. In fact, in the answers to the questions that were sent to you, Senator, we gave you some of this information, and we have more this evening.
There are web sites, reports, a number of things that have been prepared by the French government that speak to the releases from both the La Hague and the Melox plant and to what extent they meet the standards and release limits in France, so I think we have some of that. I think, in the public domain, and we have more that we will speak to this evening.
SENATOR LEVENTIS: Do they meet the release limits in France?
MR. NULTON: Yes, they do.
SENATOR LEVENTIS: Do they meet the

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international treaty limits set in the 1980s?
MR. NULTON: Yes.
MR. HUGELMAN: Speaking around the releases of Cogema, we can speak around the two plants, La Hague and Melox, exactly the same rules in France. To be allowed to run such a plant, we have to have an authorization for releases. The authorization for releases is given by the two ministries in France. The F ministry and the intergovernmental ministry.
For example, for La Hague reprocessing plant, we have two authorizations. One is along the liquid discharge, and the other is along the air discharge. This is for reauthorization.
When we have such an authorization, we have to have a public inquiry. We have to have documents given to people who can read it, keep the information, ask the questions.
We have to give such a procurement to the open community because we are in Europe under the European rules, something which is named Article 47. The European community has to give them advice around the authorization, discharge authorization, and around the impact

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of these releases.
Upon this information is disclosed for this procedure in France and Europe. After that when we have authorization, each month we give all of the information along what was released first to the authorities and second to the public. And we give these each month around each site. I have one for one site of Cogema. We disclose -- with all the information, all the readings in the atmosphere, in water, if we are -- on all the analyses we do on all the results of the analyses.
For example, for oxides, we would take around 20,000 samples per year. We do around 80 analyses of the samples. We give the information on paper. We send it. We print several thousand of this document. We send it to people, to the elected people, to all the communities around the plant, but we don't put that very often on the web because we have since 20 years in France a national system, Minitel. On Minitel, it's very used in France. In fact, we put information on Minitel.
On the web it's becoming more and

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more popular. I think now month after month, we are getting more and more information on the web sites of Cogema. But the Minitel system is public. Everybody in France has a Minitel at home and can ask them questions.
On the other side, there is another thing which is very important that we have what we name CLI. This is an information commission. On the inside the information commission, there are some elected people, generally the president is a mayor or he's a deputy, a member of parliament.
Inside the commission there are some trade union representatives. There are some anti-trade association representatives. There are some elected people. And once every three months, there is a meeting, and we go to give all of the information to the local information commission to these people.
Each year, to finish with this topic, we disclose an informal report, and we give all of this information. These documents are public, that we give to people.
So in fact, all of the information around what we release is disclosed to the

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public around all of the sites of Cogema, La Hague and around Melox. This is the same rule.
SENATOR LEVENTIS: Thank you. Has your company at either one of those plants been cited for violations of the discharges?
MR. HUGELMAN: Never, sir. We can't do that. If we did that, the French authorities would stop the plant. We can't do that.
SENATOR LEVENTIS: How about the 1980 discharge permit that you received? Have you received an update since then, or are you still operating under that permit?
MR. HUGELMAN: No. The permit we had was -- for the La Hague plant was in '84. That was for the La Hague site. I will look. The one for Melox was in '94, because Melox is a much more recent plant, in fact. And for La Hague, the last year, meaning in '98 of all the graduated amounts because we have authorization for the graduated amounts.
For example, for emissions last year on the air, it was 3.3 percent of the authorization. For the -- 0.06 percent. I

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have all the information here. I have a slide. Perhaps we can show it if you want.
SENATOR LEVENTIS: We just need to make it available so folks can get it if they'd like.
MR. HUGELMAN: It was the same year after year. For Melox it's around 0.5 percent of the authorization.
SENATOR LEVENTIS: Did the company not have a proposal for a plant in Germany? Did you all bid on a plant to construct a plant in Germany to do reprocessing?
MR. HUGELMAN: Construct a plant in Germany? I think the German project a long time ago -- it was German people, a German company. It wasn't Cogema.
SENATOR LEVENTIS: Was Cogema going to be a part of a consortium there as you are here, or do you recall?
MR. HUGELMAN: I don't know because I have to say who I am. I am the Director of the Melox plant in France -- produce the MOX fuel for EDF in the next future for the Japanese utilities. I was before the Deputy Director of La Hague processing plant. I'm

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here today to answer your question around Melox.

SENATOR LEVENTIS: So you're not aware how much of Cogema is owned by the French government? Do they have an ownership?

MR. HUGELMANN: Yes. A part of the French government is a little more than 80-percent. The name of the party is Total, which is another company.

SENATOR LEVENTIS: Thank you.

Let me shift the focus to the folks from DOE and talk about the agreement that you talked about earlier that was made between President Clinton and Vice-President Gore and Russian officials. Let's talk about that for a while, if you don't mind.

Is there any agreement with Russia that obligates the United States to use the MOX process?

MR. NULTON: The only agreement that will determine how much material gets dispositioned and how much will be by MOX or other means is this bilateral agreement that I spoke of earlier that will be concluded in September.

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At this point, it is going to result in MOX being used in Russia and MOX being used for a portion of material in this country.

The Russians, when we first talked with them, their preference was to store their plutonium and to save it for a number of decades and use it in advanced breeder reactors.

As a result of this Clinton/Yeltsin summit that I mentioned in September of '98, the agreement was made that they wouldn't do that, they'd get rid of it sooner using some more expedient means, and that's what focused the attention on the use on commercial reactors and MOX.

So the bilateral agreement, as we call it, that will be concluded in the fall. We'll have the final agreements on how much material and what means will be used to get rid of it, and it will involve MOX.

SENATOR LEVENTIS: So do you think that that agreement will obligate the United States to use the MOX process?

MR. NULTON: It will. I mean, it will say how much we are going to get rid of

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and how much will go to MOX versus immobilization.

SENATOR LEVENTIS: I know you weren't there, but I think you keep up with it. Has Russia stated that they will not pursue a disposition program if we do not pursue MOX?

MR. NULTON: They've certainly made those statements to us as we've talked with them over the years, yes.

SENATOR LEVENTIS: Is Russia planning to use the MOX process in their light-water reactors? Is that something that we're trying to compel them to do through the agreement, or where did that come from?

MR. NULTON: As I said earlier, it came from the fact that their real preference was to save the plutonium, to stockpile it, and to use it in breeder reactors in perhaps one to two decades, and then use those breeder reactors to make even more plutonium.

It was the Clinton/Yeltsin agreement in September of '98 that drove us towards a nearer term conclusion using the commercial reactors and MOX in these commercial reactors.

SENATOR LEVENTIS: So is it our idea

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that they should use it in their light-water reactors or is that something they --

MR. NULTON: I think it's their idea and it's our idea collectively.

SENATOR LEVENTIS: Are we going to pay for their use of MOX fuel in their light-water reactors?

MR. NULTON: The Russians do not have the money to implement this program, and they have said that they would need financial support from the G7 countries, of which we are one: Ourselves, Canada, Germany, France, Britain, Italy, Japan. We will not pay for it all, but we will pay for a portion of it.

SENATOR LEVENTIS: And that's that same agreement that's being worked out, the bilateral?

MR. NULTON: Yes. That bilateral agreement will have some -- and again, I'm not negotiating the agreements. I don't know the specific terms. There will be provisions in there or statements by the Russians that they will need financial support from the other countries.

SENATOR LEVENTIS: I know it's not

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finished, but to date, is it true that they are allowed to reextract left-over plutonium from MOX spent fuel after the passage of some time?

MR. NULTON: After the passage of some time, yes. There are provisions in the agreement, being negotiated in the agreement, that the Russians will not be allowed to reprocess any spent fuel that was made with weapons plutonium until all of that weapons plutonium has gone through the disposition process.

SENATOR LEVENTIS: At the present projection, that would be sometime after 2015?

MR. NULTON: It would be after 2015. It would be at least 10 years after whenever they began to disposition this material, which would start in 2006.

SENATOR LEVENTIS: Will the delay in reprocessing the MOX spent fuel negatively affect Russia's current reprocessing program?

MR. NULTON: I don't know that they have a current reprocessing program at this time. They don't have the money to get a reprocessing program going at this point.

SENATOR LEVENTIS: Do they have to

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do substantial changes in their light-water reactors to use MOX fuel?

MR. NULTON: At the rate that they will be using the MOX, they do not need to make substantial changes to their reactors.

If they want to increase the amount of material that goes into those reactors, they would need substantial changes, as I understand it.

SENATOR LEVENTIS: Have there been any discussions of liabilities for any accidents that happen while the MOX program is in use over there?

MR. NULTON: That's part of what's being negotiated in this contract, how liabilities will be handled.

SENATOR LEVENTIS: Do you know the current status of that?

MR. NULTON: I don't know the status at this point.

There is language that's been proposed on both sides. I just don't know what the status is at this point. It's probably being negotiated literally as we speak.

SENATOR LEVENTIS: You mentioned

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earlier something about an escalator out of the process if it was required. Do you think that -- do we have the ability or are we committed to stop the MOX program if there are difficulties, for example, if the Russians don't enter into the bilateral agreement?

MR. NULTON: Absolutely. If the Russians don't enter into the bilateral agreement, then we will not proceed into construction and disposition of our own material. The idea is that we will move forward roughly in step with the Russians. We both get rid of our material or neither of us do.

SENATOR LEVENTIS: Has DOE agreed, or in this agreement is there anything that will allow Russia to make MOX fuel for its breeder reactors as part of the disposition program?

MR. NULTON: There is, as part of the agreement to convert the BN600 reactor, which is a reactor built by the Russians for the purpose of breeding. But before it would be used, it would be converted into a burner -- it is a liquid metal reactor, but it would be

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used to help increase the amount of material that the Russians could disposition. But it would be used as a non-breeder reactor for that purpose.

SENATOR LEVENTIS: So the agreement, as you understand it to date, doesn't allow them to --

MR. NULTON: It does not allow them to breed in that reactor. That's correct.

SENATOR LEVENTIS: So as you look at my sheet, question number 14 is obvious, that we're not allowing them to, according to the agreement, as it's stated now, create any additional quantities of plutonium.

MR. NULTON: That's right. The Russians have also proposed an additional liquid metal reactor, and we will not agree to do that. Since this one already exists, and it can be used as a burner, we are negotiating whether the -- the use of that reactor burning plutonium.

SENATOR LEVENTIS: We talked a little bit about -- or we talked a lot about the state of our program and its development and the design of our facilities.